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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,993	07/19/2001	Hiroshi Iizuka	M1953-35	6849

7278 7590 12/31/2002

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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/31/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-9

# Office Action Summary

Application No.  
09/908,993

Applicant(s)  
Iizuka et al.

Examiner  
Ivars Cintins

Art Unit  
1724



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 30, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | 6) <input type="checkbox"/> Other:  |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5-9 and 12-17 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz in view of Spiegl. As pointed out in the previous Office Action, Schwartz discloses a multi-tank water softening system of the type recited, and further teaches that regeneration can be initiated based on a signal from hardness sensors. Accordingly, this primary reference discloses the claimed invention with the exception of detecting the hardness of treated water. Spiegl discloses a similar water softening system, and teaches sampling treated water in hardness detectors to determine when regeneration of the softener material must be initiated. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the hardness detectors of Spiegl for the hardness sensors of Schwartz, since these secondary reference hardness detectors are capable of measuring water hardness in substantially the same manner as the

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hardness sensors of the primary reference, to produce substantially the same results.

Claims 3, 4, 10, 11, 18 and 19 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz and Spiegl as applied above, and further in view of Tanabe et al. As pointed out in the previous Office Action, the modified primary reference discloses the claimed invention with the exception of the recited non-regenerating polisher. Tanabe et al. discloses a system for purifying water, which system comprises a plurality of purification units, and further teaches utilizing a non-regenerating polisher in order to remove any residual ionic impurities from the previously purified water. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the modified primary reference with the non-regenerating polisher of Tanabe et al., in order to obtain the advantages (i.e. residual contaminant removal) disclosed by this secondary reference for the system of the modified primary reference.

Applicant's arguments filed September 30, 2002 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that one of ordinary skill in the art would not have been motivated to substitute Spiegl's electrical hardness detectors for Schwartz's

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non-electrical hardness sensors because the system of Schwartz requires "no dependence on electricity to operate." It is pointed out, however, that the hardness detectors of Spiegl function to detect water hardness in a purely mechanical manner. The ion exchange resin in the detector shrinks or swells as a function of the hardness of the water coming in contact with this resin, which shrinking or swelling causes movement of a piston to signal water hardness (see col. 1, lines 54-55; and col. 2, lines 48-51). No electricity is required to operate such a hardness detector. While it is true that the Spiegl system utilizes electric switches, Applicant should note that these electric switches are actuated mechanically by the piston in the hardness detector (see col. 3, lines 40-41 and 54-55). Accordingly, upon modification of the Schwartz system in the manner proposed above, one of ordinary skill in the water softening art would continue to utilize the non-electrical controls of the primary reference system, actuating them mechanically by the hardness detector of Spiegl, thereby maintaining the desired non-dependence on electricity in the thus modified primary reference system.

Applicant apparently feels that claims 3, 4, 10, 11, 18 and 19 should stand or fall with their parent claims, since no arguments have been presented as to why the additional limitations contained in these dependent claims are sufficient to

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distinguish them over the references of record. In any event, Tanabe et al. discloses a system for purifying water, which system utilizes a non-regenerating polisher; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the modified primary reference with the non-regenerating polisher of Tanabe et al., in order to obtain the advantages disclosed by this secondary reference for the system of the modified primary reference.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Simmons, can be reached at (703) 308-1972.

The fax phone numbers for this art unit are: (703) 872-9311 for "Official" faxes after Final Rejection; (703) 872-9310 for all other "Official" faxes; and (703) 872-9492 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

*Ivars Cintins*  
**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
December 28, 2002